Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

Claims 1-4 (Canceled)

Claim 5. (Currently Amended) A method for receiving information symbols encoded with a differential space-time block code (STBC) before being transmitted and decoding the received information symbols in a wireless communication system, the method comprising the steps of:

collecting a signal received at a reception antenna from a plurality of transmission antennas for a block duration;

calculating a substitution signal by multiplying the signal received ~~signal~~ from the plurality of antennas by a signal received for a previous block duration;

estimating channel power for a channel from the plurality of transmission antennas to the reception antenna;

normalizing ~~the~~ estimated channel power with a normalization value that is determined as a size of previously received symbols; and

calculating information symbols by dividing the substitution signal by ~~the~~ normalized channel power.

Claim 6. (Original) The method of claim 5, wherein the information symbols are calculated by

$$P_{v+1,n}=\frac{R\{R^{n}_{v+1}R^{nH}_{v}\}-R\{W_{n}\}}{\hat{p}_{B}|S_{v}|}$$

where $P_{v+1,n}$ is an n^{th} information symbol at a current block duration v+1, $R\{\cdot\}$ indicates real conversion, R^{n}_{v+1} and R^{n}_{v} are reception signal combinations created to calculate an n^{th} symbol with signals received for a current block duration v+1 and a previous block duration v, respectively, $(\cdot)^{H}$ indicates Hermitian transpose, W_n is a noise at an n^{th} symbol duration, $\hat{p}_{B}$ is the estimated channel power, and $|S_v|$ is the normalization value.

Claim 7. (Original) The method of claim 5, wherein the estimated channel power is calculated by

$$\hat{p}_B = E\{r^*_{v+1,i} r_{v+1,i}\} - \sigma^2_w$$

where $r_{v+1,i}$ indicates a signal received for an i^{th} symbol duration in a $(v+1)^{th}$ block duration, and σ^2_w indicates a noise variance.

Claim 8. (Original) The method of claim 5, wherein the estimated channel power is calculated by

$$\hat{p}_B = \frac{1}{L} \sum_{j=1}^{L} \sum_{i=1}^{4} r^*_{v+j-\frac{L}{2},i} \, r_{v+j-\frac{L}{2},i}$$

where $r_{v+1,i}$ indicates a signal received for an i^{th} symbol duration in a $(v+1)^{th}$ block duration, σ^2_w indicates a noise variance, and L is a length of symbol durations used for the estimation of channel power.

Claim 9. (Original) The method of claim 5, wherein the normalization value is calculated by

$$|S_v| = \sqrt{\}S_{v,1}|^2 + |S_{v,2}|^2 + \ldots |S_{v,Nt}|^2}$$

$$|S_v| = \sqrt{|s_{v,1}|^2 + |s_{v,2}|^2 + |s_{v,3}|^2 + |s_{v,4}|^2}$$

where $|S_v|$ is a normalization value determined as a size of symbols received for a previous duration v+1, and $S_{v,Nt}$ is a symbol received for a previous block duration from a Nt-th transmit antenna.

Claim 10. (Original) The method of claim 5, wherein the normalization value is calculated by dividing an autocorrelation value of a previously received signal by the estimated channel power and then taking a square root.

Claim 11. (Original) The method of claim 10, wherein the normalization value is calculated by

$$|s_v| = \sqrt{\frac{R\{R_v^n R_v^{nH}\} - R\{W_n\}}{\hat{p}_B}}$$

where $|S_v|$ is the normalization value, S_v is a symbol block received at a previous duration v, $R\{\cdot\}$ indicates real conversion, R^n_v is reception signal combinations created to calculate an n^{th} information symbol with a signal received at a previous duration v, $(\cdot)^H$ indicates Hermitian transpose, W_n is a noise at an n^{th} symbol duration, and $\hat{p}_B$ is the estimated channel power.

Claim 12. (Original) The method of claim 5, wherein the information symbols are real numbers and are grouped by a predetermined number of symbols to carry one of PSK (Phase Shift Keying) and QAM (Quadrature Amplitude Modulation) data.

Claims 13-16 (Canceled)

Claim 17. (Currently Amended) A receiver for receiving information symbols encoded with a differential space-time block code (STBC) before being transmitted and decoding the received information symbols in a wireless communication system, the receiver comprising:

a delay group for delaying a signal received for a previous block duration;

a symbol collector for collecting a signal received from a plurality of transmission antennas for a block duration;

a multiplier group for outputting a substitution signal by multiplying the signal received ~~signal~~ from the plurality of antennas by the ~~previously received~~ signal received for a previous block duration;

a power estimator for estimating channel power for a channel from the plurality of transmission antennas to the receiver, with the ~~received~~ signal received from the plurality of antennas;

a normalizer for outputting normalized channel power by multiplying ~~the~~ estimated channel power by a normalization value that is determined as a size of ~~the~~ previously received symbols;

a divider for calculating information symbols by dividing the substitution signal by the normalized channel power; and

a detector for restoring an information sequence with the information symbols.

Claim 18. (Original) The receiver of claim 17, wherein the information symbols are calculated by

$$P_{v+1,n}=\frac{R\{R_{v+1}^{n}R_{v}^{nH}\}-R\{W_{n}\}}{\hat{p}_{B}|S_{v}|}$$

where $P_{v+1,n}$ is an n^{th} information symbol at a current block duration v+1, $R\{\cdot\}$ indicates real conversion, R_{v+1}^{n} and R_{v}^{n} are reception signal combinations created to calculate an n^{th} symbol with signals received for a current block duration v+1 and a previous block duration v, respectively, $(\cdot)^{H}$ indicates Hermitian transpose, W_n is a noise at an n^{th} symbol duration, $\hat{p}_B$ is the estimated channel power, and $|S_v|$ is the normalization value.

Claim 19. (Original) The receiver of claim 17, wherein the estimated channel power is calculated by

$$\hat{p}_{B}=E\{r_{v+1,i}^{*}r_{v+1,i}\}-\sigma_{w}^{2}$$

where $r_{v+1,i}$ indicates a signal received for an i^{th} symbol duration in a $(v+1)^{th}$ block duration, and σ^2_w indicates a noise variance.

Claim 20. (Original) The receiver of claim 17, wherein the estimated channel power is calculated by

$$\hat{p}_{B}=\frac{1}{L}\sum_{j=1}^{L}\sum_{i=1}^{4}r_{v+j-\frac{L}{2},i}^{*}r_{v+j-\frac{L}{2},i}$$

where $r_{v+1,i}$ indicates a signal received for an i^{th} symbol duration in a $(v+1)^{th}$ block duration, σ^2_w indicates a noise variance, and L is a length of symbol durations used for the estimation of channel power.

Claim 21. (Original) The receiver of claim 17, wherein the normalization value is calculated by

$$|S_v| = \sqrt{\}S_{v,1}|^2 + |S_{v,2}|^2 + \ldots |S_{v,Nt}|^2}$$

where $|S_v|$ is a normalization value determined as a size of symbols received for a previous duration v+1, and S_v is a symbol received for a previous block duration from a Nt-th transmit antenna.

Claim 22. (Original) The receiver of claim 17, wherein the normalization value is calculated by dividing an autocorrelation value of a previously received signal by the estimated channel power and then taking a square root.

Claim 23. (Original) The receiver of claim 22, wherein the normalization value is calculated by

$$|s_v| = \sqrt{\frac{R\{R_v^n R_v^{nH}\} - R\{W_n\}}{\hat{p}_B}}$$

where $|S_v|$ is the normalization value, S_v is a symbol block received at a previous duration v, $R\{\cdot\}$ indicates real conversion, R^n_v is reception signal combinations created to calculate an n^{th} information symbol with a signal received at a previous duration v, $(\cdot)^H$ indicates Hermitian transpose, W_n is a noise at an n^{th} symbol duration, and $\hat{p}_B$ is the estimated channel power.

Claim 24. (Original) The receiver of claim 18, wherein the information symbols are real numbers and are grouped by a predetermined number of symbols to carry one of PSK (Phase Shift Keying) and QAM (Quadrature Amplitude Modulation) data.